

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Backes

Application No.: 10/781228

Filed: 2/18/2004

Title: Transmission Channel Selection Apparatus

Attorney Docket No.: 160-011

Group Art Unit: 2683

Examiner: Ewart

Mail Stop AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Pre-Appeal Brief Request for Review

Dear Sir:

This is a Pre-Appeal Brief Request for Review from the Final Office Action dated February 22, 2006. Claims 1-3 are pending in this application and stand rejected under 35 U.S.C. §102 as being anticipated by Soomro. The sole issue presented is whether the Soomro beacon satisfies the limitations of claims 1 and 2, i.e., a message indicating an intent to utilize a channel.

The actions leading up to this Request are as follows. In response to the Office Action of November 2, 2005, Applicant amended claim 1 to a wireless device operable to transmit a message on a selected channel indicating an intent to utilize that channel, and that the message is transmitted prior to utilizing the channel for normal communications. Similarly, claim 2 was amended to recite circuitry operable to monitor a channel for a message indicative of an intent to utilize that channel. In the Final Office Action dated February 22, 2006 the Office indicated at pp. 2-3 that the added limitations were satisfied by the Soomro beacon, which the Office believes is sent out prior to normal communications, and provides an indication of the intent to utilize the selected channel.

The specification describes in detail how and why a wireless device signals an intent to utilize a channel before actually utilizing that channel, and before sending any beacons. “Before a newly added AP 12 starts to ‘Beacon’ (i.e. broadcast management packets to other APs and STAs), the AP 12 ... selects a channel in each band¹, ... advertises its intention to use the selected channel by periodically transmitting DRCP Claim messages during the claiming period (step 42)²,” and “if at the end of the claiming period, the AP has succeeded in claiming the selected channel, it begins running on the channel,” and then “[t]he AP starts beaconing.”³ If at the end of the claim period a Channel Selection Collision is detected, then the AP selects another channel if the collision is with a non-DRCP-active AP, or the conflict is resolved via MAC address comparison if the collision is with a DRCP-active AP.⁴ One advantage of this procedure is that the new AP can determine whether a new channel is relatively free from traffic before beginning potentially interfering normal communications. It also provides a means for APs already utilizing the channel to object to the intent of the new AP to use the channel. In other words, the AP solicits input from other devices with the Claim message prior to beginning normal communications on a new channel.

A WLAN beacon in general, and the Soomro beacon in particular, are not indicative of an intent to utilize a channel, but rather are indicative of actual use of a channel. It is well known in the art that an access point periodically broadcasts beacons, each having a traffic map indicating availability of buffered packets.⁵ The purpose of the beacon is to awaken nodes that are in sleep

¹ page 19, second full paragraph

² page 19, second full paragraph

³ page 21, 1st full paragraph

⁴ page 20

⁵ *Beacon signals: what, why, how, and where?*, Gerasenko, S.; Joshi, A.; Rayaprolu, S.; Ponnavaikko, K.; Agrawal, D.P.; Computer, Volume 34, Issue 10, Oct. 2001, Page(s):108 - 110, at page 108

mode to resynchronize them so that those nodes can receive the buffered data.⁶ Soomro describes the format of such a beacon as including “timestamp, a beacon interval, capability information, service set identification (SSID), an identification of supported rates,” etc. (paragraph 0027) Apart from the DFS field, the Soomro beacon appears to be a standard IEEE 802.11 beacon. If the Soomro beacon, or beacons in general, were indicative of only the intent to utilize the channel at some future time rather than actual use, there would be no need for a traffic map or capability information because that information would not be required until actual use of the channel had commenced. Further, it would be nonsensical for an AP to signal a STA that traffic is buffered without having already begun normal use of the channel. If that were the case, the meaning of the resulting beacon would be: traffic is pending for you, but the traffic will not actually be delivered to you. Finally, there is no teaching in Soomro that a device can object to a beacon (something that is possible with Claim messages). Therefore the Soomro beacon is part of normal communications, rather than something that occurs before normal communications. Further, the Soomro beacon is indicative of actual use of the channel rather than an indication of mere intent to use the channel in the future.

For the reasons stated above, claim 1 distinguishes Soomro by reciting DRCP Claim Messages as “wherein prior to utilizing the selected channel for normal communications the selection of a radio frequency channel is communicated on the selected channel to other devices via a message indicative of an intent to utilize the selected channel.” Similarly, claim 2 distinguishes Soomro by reciting “circuitry operable to transmit messages on the selected channel during a claim interval, at least one message indicative of an intent to utilize the selected channel; circuitry operable to monitor messages on the selected channel during the claim interval

⁶ Id.

for a message from another device indicative of an intent to utilize the selected channel.” Claim 3 is a dependent claim which further distinguishes the invention, and which is allowable for the same reasons as claim 2. Withdrawal of the rejections is therefore requested.

For these reasons, Applicants respectfully request that the above application be reviewed by the pre-appeal panel. If the panel determines that the Examiner has not made a *prima facie* showing of anticipation, Applicants respectfully request withdrawal of the rejections and allowance of the pending claims.

Respectfully Submitted,

4/24/2006

Date

/Holmes W. Anderson/
Holmes W. Anderson, Reg. No. 37,272
Attorney/Agent for Applicant(s)
McGuinness & Manaras LLP
125 Nagog Park
Acton, MA 01720
(978) 264-4001

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